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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/566,481

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Moshe Einat

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02/18/2010

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EXAMINER

SOLOMON, LISA

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/566,481	<b>Applicant(s)</b> EINAT ET AL.	
	<b>Examiner</b> LISA M. SOLOMON	<b>Art Unit</b> 2861	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-81 is/are pending in the application.
- 4a) Of the above claim(s) 1-37,39,44-46,48-58 and 60-79 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 59 is/are allowed.
- 6) ☒ Claim(s) 38,40,42,43,47 and 80 is/are rejected.
- 7) ☒ Claim(s) 41 and 81 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 38, 42, and 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson (2005/0018011) in view of Baker et al. (5,052,271) and Koitabashi et al. (6,390,578).

#### ***Nelson (2005/0018011) teaches an ink jet printhead comprising:***

**Claim 38:** a print head matrix (304, 306, Figs. 3, 5, and 6), the matrix (304, 306) having a plurality of nozzles (402a, 402b, Fig. 6) for bubble formation and expulsion said nozzles (402a, 402b) opening onto a print side surface (surface of said matrix (304, 306) which the orifice layer (514, Fig. 5) faces) of said matrix (304, 306), the matrix (304, 306) further comprising a plurality of local reservoirs (502a, 502b, Fig. 6), wherein each of said local reservoirs (502a, 502b) is configured to supply ink to one respective nearby nozzle (402a, 402b) of said nozzles (402a, 402b), said local reservoirs (502a, 502b) opening onto an ink supply surface (bottom surface of local reservoirs (502a, 502b) in Fig. 6) of said matrix (304, 306) and such that each one of said local ink detaining storage

reservoirs (502a, 502b) supplies ink from said ink supply surface (bottom surface of local reservoirs (502a, 502b) in Fig. 6) to a single respective one of said nozzles (402a, 402b) [Paragraphs 23-28, See also Figs. 3, 5, and 6].

**Claim 42:** wherein said print side surface (surface of said matrix (304, 306) which the orifice layer (514, Fig. 5) faces) and said ink supply surface (bottom surface of local reservoirs (502a, 502b) in Fig. 6) are respectively opposite sides of said matrix (304, 306) [See Figs. 5 and 6].

**Claim 80:** a two dimensional print head matrix (304, 306, Figs. 3, 5, and 6), the matrix (304, 306) having a plurality of nozzles (402a, 402b, Fig. 6) extending along said respective two dimensions (see Figs. 3 and 4) of said matrix for bubble formation and expulsion, said nozzles (402a, 402b) opening onto a print side surface (surface of said matrix (304, 306) which the orifice layer (514, Fig. 5) faces) of said matrix (304, 306), the print head matrix (304, 306) further comprising a plurality of local reservoirs (502a, 502b, Fig. 6) coextensive with said nozzles (402a, 402b), wherein each of said local reservoirs (502a, 502b) is configured to supply ink to one respective corresponding nozzle (402a, 402b) of said nozzles (402a, 402b), said local reservoirs (502a, 502b) opening onto an ink supply surface (bottom surface of local reservoirs (502a, 502b) in Fig. 6) of said matrix (304, 306) such that ink is passed from said ink supply surface (bottom

surface of local reservoirs (502a, 502b) in Fig. 6) via said reservoirs (502a, 502b) to respectively corresponding nozzles (402a, 402b), a passage (508, Fig. 5) from a reservoir (502a, 502b) to a corresponding nozzle (402a, 402b) [Paragraphs 23-28 and Paragraphs 36-37 See also Figs. 3-6].

However, Nelson (2005/0018011) does not teach:

**Claim 38:** wherein each of said local reservoirs is configured to supply ink to one respective nearby nozzle of said nozzles at atmospheric pressure by capillary action

**Claim 80:** wherein each of said local reservoirs is configured to supply ink to one respective nearby nozzle of said nozzles at atmospheric pressure by capillary action

***Baker et al. (271') teaches:***

**Claim 38:** wherein each of said local reservoirs is configured to supply ink to one respective nearby nozzle of said nozzles by capillary action [Abstract lines 1-11, Column 3 lines 5-12, See also Fig. 2].

**Claim 80:** wherein each of said local reservoirs is configured to supply ink to one respective nearby nozzle of said nozzles by capillary action [Abstract lines 1-11, Column 3 lines 5-12, See also Fig. 2].

However, Baker et al. (271') does not teach:

**Claim 38:** wherein each of said local reservoirs is configured to supply ink to one respective nearby nozzle of said nozzles at atmospheric pressure by capillary action

**Claim 80:** wherein each of said local reservoirs is configured to supply ink to one respective nearby nozzle of said nozzles at atmospheric pressure by capillary action

***Kohtabashi et al. (578') teaches:***

**Claim 38:** wherein each of said local reservoirs is configured to supply ink to one respective nearby nozzle of said nozzles at atmospheric pressure by capillary action [Column 5 lines 59-65, Column 8 lines 25-35, Column 27 lines 58-66, Column 28 lines 14-27].

**Claim 80:** wherein each of said local reservoirs is configured to supply ink to one respective nearby nozzle of said nozzles at atmospheric pressure by capillary action [Column 5 lines 59-65, Column 8 lines 25-35, Column 27 lines 58-66, Column 28 lines 14-27].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide ink supplied to at least respective nearby nozzle of said nozzles by capillary action as taught by Baker et al. (271') and to provide ink supplied to at least respective nearby nozzle of said nozzles at atmospheric pressure by capillary action as taught by Koitabashi et al. (578') in the inkjet printhead of Nelson (2005/0018011) for the purposes of feeding ink to the printhead [Baker et al. (271') Abstract lines 7-11] and for the purposes of maintaining the internal pressure of the ink supply portion at a predetermined level [Koitabashi et al. (578') Column 28 lines 33-36].

Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson (2005/0018011) in view of Baker et al. (5,052,271) and Koitabashi et al. (6,390,578) as applied to claims 38 and 42 above, and further in view of Hermanson (5, 581,284).

***Nelson (2005/0018011) in view of Baker et al. (271') and Koitabashi et al. (578') teaches an ink jet printhead according to claim 38:***

However, Baker et al. (271') and Koitabashi et al. (578') do not teach:

**Claim 40:** wherein said matrix is arranged into a substantially rectangular printing area dimensioned to give simultaneous printing coverage of standard sized

printing media upon being placed substantially over said standard sized printing media

***Nelson (2005/0018011) further teaches:***

**Claim 40:** wherein said matrix is arranged into a substantially rectangular printing area dimensioned to give simultaneous printing coverage of standard sized printing media upon being placed substantially over said standard sized printing media [Paragraphs 19-20].

Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. (6,652,068) in view of Baker et al. (5,025,271) and Koitabashi et al. (6,390,578) as applied to claims 38-42 and 59 above, and further in view of Kurata et al. (2001/004610).

***Nelson (2005/0018011) in view of Baker et al. (271') and Koitabashi et al. (578') teaches an ink jet printhead according to claim 38:***

However, Nelson (2005/0018011) in view of Baker et al. (271') and Koitabashi et al. (578') do not teach:

**Claim 43:** the ink jet head further comprising further comprising an ink distribution device associated with said ink supply surface for distributing ink to reach said local ink reservoirs.



***Kurata et al. (2001/004610) teaches:***

**Claim 43:** the ink jet head further comprising further comprising an ink distribution device associated with said ink supply surface for distributing ink to reach said local ink reservoirs [Paragraph 50 lines 12-20, Paragraph 52, Paragraphs 57-58].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an ink distribution device associated with said ink supply surface for distributing ink to reach said local ink reservoirs as taught by Kurata et al. (2001/0040610) in the ink jet head of Nelson (2005/0018011) in view of Baker et al. (271') and Koitabashi et al. (578') for the purposes of replenishing ink into the ink reservoirs [Kurata et al. (2001/0040610) Paragraph 57 lines 3-6].

Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson (2005/0018011) in view of Baker et al. (5,025,271), Koitabashi et al. (6,390,578), and Kurata et al. (2001/00460610) as applied to claims 38 and 42 above, and further in view of Cowager et al. (5,010,354).

***Nelson (2005/0018011) in view of Baker et al. (271'), Koitabashi et al. (578)', and teaches an ink jet printhead according to claim 38:***

However, Nelson (2005/0018011) in view of Baker et al. (271'), Koitabashi et al. (578'), and Kurata et al. (2001/0040610) do not teach:

**Claim 47:** wherein said ink distribution device is a tubeless distribution device

***Cowager et al. (354') teaches:***

**Claim 47:** wherein said ink distribution device is a tubeless distribution device [Column 2 line 55-Column line 6].

It would have been obvious to one of ordinary skill of the art at the time the invention was made to provide a tubeless ink distribution device as taught by Cowager et al. (354') in the ink jet head of Nelson (2005/0018011) *in view of* Baker et al. (271'), Koitabashi et al. (578'), and Kurata et al. (2001/0040610) for the purpose of maintaining pressure within an ink reservoir at less than ambient pressure [Cowager et al. (354') Column 2 line 68-Column 3 lines 3].

***Allowable Subject Matter***

3. Claim 59 is allowed.

The following is an examiner's statement of reasons for allowance: The primary reason for allowance of claim 59 is the inclusion of the limitation of an ink jet printing head that includes each of said local reservoirs is being configured to supply ink to one respective nearby corresponding nozzle of said nozzles by capillary action at atmospheric pressure, said capillary action not assisted by compression. It is this limitation found in the claims, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Claims 41 and 81 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The primary reason for allowance of claims 41 and 81 is the inclusion of the limitation of "an ink jet print head that includes arranged for printing on said standard sized printing media during a period of unchanged relative displacement between said print head and said printing media" and "wherein said capillary action is unaided by compression". It is this limitation found in the claims, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over prior art.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LISA M. SOLOMON whose telephone number is (571)272-1701. The examiner can normally be reached on Monday - Friday from 8:00 am - 4:30 pm. If attempts to reach the examiner by telephone

are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on (571) 272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MATTHEW LUU/  
Supervisory Patent Examiner, Art Unit 2861

/Lisa M Solomon/  
Examiner, Art Unit 2861

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